

FEBRUARY
1953

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JOURNAL OF
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ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.I.
Telephone: MU 5184.

PRINTERS:

"RICHMOND CHRONICLE"
Shakespeare St., Richmond, E.I.
Telephone: JB 2419.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.I., on or before the 8th of each month.

Subscription rate in Australia is 12/- per annum, in advance (post paid) and A15/- in all other countries.

Wireless Institute of Australia
(Number is FJ 6997).

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VK3WI: Sundays, 0830 hours WEST, on 7146 Kc. No frequency checks available.

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Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.I.

EDITORIAL



OUR INSTITUTE IS GROWING

It is gratifying to look back over almost a decade since the proclamation of peace after the cessation of hostilities of World War II and note the growth of the Wireless Institute of Australia; it has more than doubled its membership, which, in layman's language means double the work.

All those who have held office in the various Divisions, the Federal Council and the Federal Executive over these years have conjointly contributed to the well being of the Institute, and it is to these members we all owe our thanks for the devotion of time and energy in undertaking the honorary tasks to keep an organisation such as ours well and truly alive in the work of representing the wireless Amateurs of the Commonwealth of Australia.

However, in growing as we have done, the responsibilities that the Institute must shoulder have grown too, with the ever increasing necessity for each and every active administrative member to be one chosen by his Division because of his ability to carry out the particular duties of the office to which he is appointed; a person who has the wholehearted support and co-operation of all the members of his Division behind him.

When all is said and done, an institution can only exist by membership, and the members will be prepared to remain fully financial only if the "powers that be" who govern his little world are in turn prepared to administrate with the far-sightedness that brings good to the majority and not a minority clique desiring

privileges for themselves; who will fight for the right of the "man-on-the-street-Amateur" as well as their personal desires, who will meet every Amateur—however lowly his status in life—with the same eagerness and demeanour of good fellowship as they would meet their own personal friends, and who, to coin a colloquialism, "can let their hair down" and be a boy with the boys in understanding the problems, desires, ambitions and requirements of each and every member.

It is this sense of good fellowship to the "little" Amateur who sits quietly—and many times unhappily and lonely—at his Division's meetings that makes him a happy and contented member, one who will recommend to the new Amateur friends he will assuredly make, the warmth and friendship they can have by being a member of the W.I.A. Give to him a warm smile and a handshake, let him have his say however inexperienced you might think he is, encourage him with all the power of your Council behind you to make him feel he is just as important at this meeting as is the President himself, give him the opportunities he rightfully possesses to say what he wants you to do for him and his fellow Amateur.

The "little" Amateur is the one who is potentially the office-bearer of tomorrow, don't kill his ambition before he grows his wings. Our Institute is growing and he is needed!

FEDERAL EXECUTIVE

THE CONTENTS . . .

A Beginners' Approach to the Calculation of Inductance . . .	2	A.R.R.L. Contest	7
A Phasing Type Single Sideband Suppressed Carrier Exciter, Part Three	4	Amateur Call Signs	7
VK3WI Accurate Frequency Transmissions	6	Fifty Megacycles and Above . . .	8
Book Review—4th Edition of the Radiotron Designers' Handbook . .	6	Prediction Chart for February 8	
		DX Countries of the World . . .	10
		DX Notes by VK7RK	11
		Federal, QSL, and Divisional Notes	12

A Beginners' Approach to the Calculation of Inductance*

BY T. D. ATHEY,† A.L.R.E. (AUST.)

Very often the question arises "just how does one calculate the inductance required to resonate at a certain frequency?" and the answer given is "refer to the tables in a copy of the A.R.R.L. Handbook for inductance versus capacity at a given frequency."

Now this is quite in order, but the fact remains that these tables still do not indicate just how many turns are required, or the diameter of the former or the length of the winding. And so the student sits down and with much perusal of numerous text books and rumpling of his hair (if he has any) and a bit of local Q.R.N., he arrives at the point of giving the show away.

Now most of this can be avoided if he uses his basic training in inductance calculation and by the use of certain given formulae available in students' manuals.

First let him understand that "the self inductance of a circuit depends on the physical shape of the coil and the arrangement of its various parts and the consequent distribution of the lines of flux in the magnetic circuit."

In the Admiralty Handbook the formula for self inductance is given as

$$L = \frac{4\pi N^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

where N = number of turns per cm. and A = r^2 where r = radius of coil. Consequently this lengthy formula can be reduced to—

$$L = \frac{4\pi^2 N^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

but it still leaves the student up in the air as regards a simple approach to practical inductance measurement.

Again on referring to a copy of "Practical Radio Communication" (Nilson and Hornung) they give us a somewhat different approach to this application—

$$L = 4\pi^2 r^2 n^2 l \text{ K cms}$$

(Nagaoka Formula)

which is very accurate. Where r and l are expressed in cms and n = number of turns per cm length K = constant factor determined by ratio d/l

and where the coil is a single layer.

Now this is all very well for those who belong to a Brains Trust, but to the average student if he can get his teeth into some other formula that will permit him to make fairly accurate and rapid calculations, this will be so much the better. Thus if he uses the following formula—

$$L = \frac{0.067 \times d^2 \times N^2}{d + 3l} \text{ microhenrys}$$

where d (being diameter of coil) and l (being length of winding) are in inches he will get a reasonably accurate and yet rapid calculation of the value of inductance.

The only catch in this is that the formula only applies for close spaced

turns. However, as close spaced coils are very often used, this formula becomes very useful in rapid calculation.

Continuing in this strain, the question arises "what about iron-cored coils?"

Well, before making any contributions to this field, an examination of the statement is necessary. Iron-cored coils have many complications such as a varying magnetic force due to cross sectional area of the core, the permeability of the material used, which in turn is varied by its composition and also if the current producing the magnetising force is of a varying nature, the value of the permeability μ will vary.

However, if we are prepared to make a formula to cover the most general conditions, namely, that of iron-cored coils with a small air gap, we can use—

$$L = \frac{0.4N^2 \mu A}{l} \times 10^{-9}$$

where L = inductance in Henrys

l = length of air gap in cms.

A = area of surface of iron core at gap.

$\mu = 1$.

But to return to air-cored coils.

Again referring to that old standby, The Admiralty Handbook, they also quote a formula which is a reduction of—

$$L = \frac{4\pi^2 N^2 r^2}{l} \times 10^{-9} \text{ Henry}$$

and this is

$$L = r \times n^2 \times F \text{ microhenrys}$$

where r = mean radius of coil

n = number of turns

F = form factor

and form factor is the ratio of $\frac{r}{1+d}$

where l = winding length in inches

d = depth of winding or diameter of wire in a single layer coil.

Example of method of measuring coil—



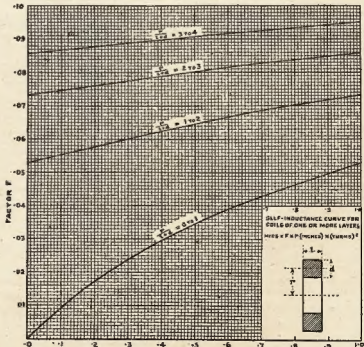
In using this method, a graph of F against $\frac{r}{1+d}$ given in the Handbook

and a copy of which is included in this article must be used. It is apparent that any spacing in the length of the coil can be worked out from this method.

To give an example of using this method, the following method is shown in seven easy, self explanatory stages:—

Find the inductance of a single layer air-cored solenoid of—

- 64 turns of wire of
- 0.08 inches diameter of wire
- 2.65 Former radius in inches
- 16.2 winding length in inches.



* An extract of a lecture at the Queensland Division of the W.I.A.'s. A.O.C.P. Classes.

† 41 Mountford St., New Farm, Brisbane.

Apply Formula $L = r \times n^2 \times F$.

Method—

Step 1:

$$r = 2.65 + 0.04 = 2.69$$

(mean radius)

* Half diam. of wire, $0.08 \div 2 = 0.04$.

Step 2:

$$n = 64 \text{ turns}$$

Step 3:

$$l = 16.2 \text{ inches}$$

Step 4:

$$d = 0.08 \text{ inches}$$

Step 5:

$$\frac{r}{1+d} = \frac{2.69}{1+0.08} = \frac{2.69}{1.08} = 0.1652$$

Step 6:

Use graph as accurately as possible using lower scale at bottom of page read off 0.1652, move pointer up to intersecting curve and read off from the left hand scale value of F.

Step 7:

$$\text{Use formula } L = r \times n^2 \times F = 2.69 \times 64^2 \times 0.0145 \text{ microhen.} = 160 \text{ microhenrys.}$$

And there you have it, fairly easy now isn't it chaps.

Sometimes a coil is found to have a different shape to that of a cylindrical one, namely, either a hexagonal or square shape. It is then necessary to make an allowance for the extra inductance.

Take the case of a hexagonal former. Measure each side and then find the centre point A. Describe a circle that

fits inside the boundaries of the hexagon. Then use the formula as shown $L = r \times n^2 \times F$ for length of winding and add 10% of result. The answer will be of sufficient accuracy for all Amateur purposes.

For square formers, apply the same method, only allow 25% extra.



When winding coils, these prime facts are of importance.

Select a wire of a gauge one above that that will handle the current amply.

Use as little length as practicable.

For best inductance, the diameter should be 2.414 times the length. Bearing this in mind when winding will save both space and wire.

To calculate a coil of given inductance proceed as follows:—

1. Select the wire to be used.
2. Determine the space available to place the coil.
3. Determine the diameter (2.414 to length).
4. Estimate the spacing.
5. Assume the length for 3 or 4 different lengths.
6. Work out inductance for each, construct a graph on a piece of 10—10 graph paper and it will be easy to calculate the length of the inductance or the number of turns required.

CONCLUSION

If this article is of any assistance to the beginner that is sufficient. But even though to get maximum inductance with minimum length the diameter should be 2.414 times the length, this is not always practicable. Then he must use his discretion and sacrifice his diameter for length, but always remembering that the efficiency of the coil is deteriorating. However, this cannot always be avoided.

The writer sincerely hopes that this small effort will help those who find coil winding and calculating somewhat of a headache.

The following table may be of some assistance:—

1 centimetre	= 0.3937 inches or 0.01 metre (1 in. = 2.54 cm).
1 Henry	= 1,000,000,000 cm or 10^9 cm.
1 Millihenry	= 1,000,000 cm or 10^6 cm.
1 Microhenry	= 1,000 cm or 10^3 cm.
1 cm of L	= 0.000000001 (10^{-9}).
1 Henry of L	= 1,000 mH = 1,000,000 uH.

To convert cms to uHs, divide by 1,000 or multiply by 10^{-3} .

Improve Your Morse Code

The Candler System Company have advised us that their "Book of Facts" is sent by Air Mail to all enquiries received from readers of "Amateur Radio." For further details refer to the Morse Code advertisement which will be found elsewhere in this magazine.

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1400—19	200, 220, 230, 240	565, 500, 425	250	2 x 6.3v.—3a.; 2 x 2.5v.—3a.; 5v.—3a.	110/-
1525—21	200, 230, 240	—	—	2.5v.—10a. (1,000v. insul.)	47/6
1305—22	200, 220, 230, 240	—	—	2.5v.—10a. (3,000v. insul.)	75/-

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	Maximum	At Full Rated D.C.				
1011—1A	30	15	250	160	1,000	59/6
*983—1A	25	20/5	30/300	80	1,000	65/6
986—1A	15	10	500	60	1,000	62/6

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A Phasing Type Single Sideband Suppressed Carrier Exciter

PART THREE

BY N. SOUTHWELL,* VK2ZF

The above has been covered in detail, and emphasised, because it has been the downfall already of a number who have attempted to build a phasing type s.s.b. exciter unit, and struck trouble. Your signal is only as good as your phase shift network, both r.f. and a.f. Remember this and take care with them. You will be amply repaid by being able to radiate a good s.s.b. signal. The audio phase shift network is foolproof, and if assembled with care, need not be checked with a c.r.o., unless its performance is doubted. Wiring errors are the biggest source of trouble likely to be encountered, if the precautions outlined have been followed.

ADJUSTMENT

For initial adjustment, an oscilloscope is handy, but by no means necessary. A c.r.o. was available during the initial lining up of the original unit, but as one of the aims was to make an exciter that could be simply and effectively adjusted with the minimum of equipment, the c.r.o. received very little use. Later, when the equipment was functioning satisfactorily, a check was made with the c.r.o. and the conditions of operation could not be improved. Personally, the writer prefers not to use the c.r.o. for lining up purposes now, as the other method is easier and quicker. The c.r.o. is used mainly for monitoring transmissions these days.

Before applying power, check the wiring throughout, then if satisfied, insert only the 807 in its socket, and apply power. The 807 cathode current should run around 70-80 Ma., depending upon the h.t. available. For operating conditions of the tube you can refer to the data sheets dealing with the 807 operating as a class A audio tetrode.

Carefully check to see that the tube is not oscillating at any frequency—low frequency, v.h.f., or around the 14 Mc. region, by using the usual methods to check for oscillation. If any oscillations are found, they must be suppressed before going any further.

The tube will very likely be found to require neutralising. When doing this it will be found handy to use the GEX44 v.t.v.m. circuit to see how adjustments are going, as any 14 Mc. oscillation will produce an indication in the v.t.v.m. circuit.

When you are satisfied the 807 is operating satisfactorily, insert the 6BA6 and apply similar tests to it as to the 807. The operating conditions for the 6BA6 are those listing the tube for use as "remote cutoff class A amplifier." Any instability in this stage must be cleared and it is better done now than later. The tube will be found to behave very similarly to the r.f. stage in a receiver.

With the two linear amplifier stages stable, insert the rest of the tubes in the exciter. Turn the bias on the 6AU6 to maximum, or, open the switch in its cathode lead. The "d.s.b.—s.s.b.—n.b.p.m." switch should be in the s.s.b. position.

Applying drive from the v.f.o. at 7100 Kc., tune the 6L6G grid circuit to resonance. If the v.f.o. has a reasonable output of a watt or so, this circuit need not again be touched for operation anywhere in the 14 Mc. band.

Switch the meter to read the bias voltage developed on one of the balanced modulators. Tune the r.f. phase shift circuit till, by switching the meter between the two balanced modulator bias positions, approx. equal bias is obtained on each stage. Leave the 6L6G plate tuning control in this position, having set up a bias voltage of around —8 or —9 volts to the balanced modulators.

Apply a tone of approx. 1,000 cycles to the input of the audio channel. Check for audio output across the two 500 ohm windings driving the balanced modulators. Roughly adjust the two audio channels to the same level. Switch the meter to the EA50 v.t.v.m. circuit. With the 6BA6 grid tank condenser set at minimum, carefully tune the balanced modulators' output tank, watching for a voltage indication on the meter; tune for maximum voltage indication. Then tune the 6BA6 grid circuit for a dip in the meter reading and adjust the circuit for minimum voltage in the link, i.e. minimum meter reading. Check both tank circuits visually to see you are not operating at one extreme limit of the tuning range. If so, adjust the circuit constants so that each circuit will tune to the desired frequency at some intermediate setting of the tuning condenser.

For Circuit Schematic and Coil Data, refer to Part One which appeared in the December, 1952, issue.

It is preferable to use ample capacity in any tank circuit handling s.s.b. energy, so do not aim for low C tank circuits.

Switch the meter to the GEX44 v.t.v.m. circuit, reduce the 6BA6 bias to a fairly low value, then tune the 6BA6 plate and 807 grid circuits, following the same procedure used previously for the two circuits just discussed.

Couple an absorption loop and lamp to the 807 plate tank, and tune for maximum output. Having obtained that, link couple the 807 output to the grid circuit of the linear amplifier you intend driving from the exciter.

Temporarily disconnect the h.t. from this linear stage and wire the grid return through a Ma. meter directly back to the filament c.t. or cathode with no means of bias in the circuit, so that with the final filaments alight you now have, when the p.a. grid circuit is tuned to resonance, a sensitive v.t.v.m. circuit. Incidentally, when tuning the p.a. grid to resonance reduce the level of tone fed into the exciter, otherwise you are liable to pin the meter needle on the stop before realising it.

So far the r.f. section has been aligned to the operating frequency, but we have

not attempted to correctly adjust either the r.f. or a.f. phasing networks. The residual carrier leaking through the balanced modulators due to imperfect balance, as described previously, has now to be minimised.

To do this, with the v.f.o. running but with no audio input to the exciter, run the 6BA6 stage gain up, by reducing its bias, until you see indications of current in the meter temporarily wired in the p.a. grid circuit. This indication is due to the carrier leakage. To reduce this signal we have to add a small capacity in parallel with the plate grid capacity of one half only of each balanced modulator tube.

Solder a length of 3" or 4" of solid core Belden wire, or other stiff insulated wire, to one grid pin of one of the balanced modulators, and bring it close to the plate lead of the same triode unit of that tube. If you have picked the correct grid to make connection to, the carrier leakage will be seen to diminish; connecting to the wrong grid will cause it to increase considerably, and the lead will have to be changed over to the tube's other grid pin.

Find the correct grid to make connection to on the other tube. Now by a little careful positioning and pruning of the length of the two wires you have soldered in, you will finally arrive at a point where you have a short length of wire hard up against the plate lead in each case, which you will find gives a minimum carrier leakage indication. These are the correct positions for the wires, and they can now be permanently positioned by some "Durex" tape or similar material. If you ever change your balanced modulator tubes, or even change the tubes over in their sockets, the carrier leakage will need to be re-adjusted to a minimum.

At intervals during the above operation, restore the balanced modulators' tank circuit for maximum carrier leakage indication, the leakage of carrier cannot be completely suppressed but it can be made very small. The residual carrier output in the tank circuit of the p.a. in the writer's transmitter is well below one watt, when peaking up to 100w. on modulation peaks. This represents a ratio of something greater than 40 db. A small amount of carrier is locked upon in some quarters as an asset, as it gives the receiving operator something to go on as to approximately where he should attempt to re-insert the carrier at his location.

If trouble is encountered in reducing the carrier leakage, check to see that r.f. from the 6L6G plate circuit is not finding its way directly into the balanced modulators' output circuit or into the linear amplifier stages. Too great an output from the 6L6G can give you the above trouble. Several watts output from this stage is more than ample.

The p.a. grid circuit may now be restored to normal and, if desired, can be left connected to the exciter.

The next step is to phase the exciter. The following method is extremely

* 80 Dutton Street, Yagoona, N.S.W.

simple, and is as effective as the much more technical ones.

Switch your receiver on and with its r.f. and i.f. gain backed well off, so that it does not overload, tune in the carrier radiated from the exciter on 14 Mc. Should your receiver be unable to handle the signal on the 14 Mc. fundamental frequency without overloading, tune it instead to the image frequency, which will be much weaker and more easily handled. Naturally you will receive a fair amount of radiation from the 6L6G output circuit, so do not let the apparently strong carrier worry you. Carefully tune the receiver to the centre of the carrier and leave it in the normal condition for the reception of a.m. signals.

Apply tone of 1,000 cycles/sec. or thereabouts to the exciter audio input, and with a multimeter, adjust the audio balance control so that you have equal audio voltages across the 500 ohm transformer secondary windings feeding the balanced modulators. Be careful not to overload the audio driver tubes by trying to make them deliver too much power. Using 500 ohm windings to drive the balanced modulators, it is advisable to keep the voltage developed across them down to around 15 volts r.m.s., to keep well within the ratings of the tubes. The 6SN7GT drivers under the conditions used are good for about 750 milliwatts each.

The higher the impedance of the secondary windings feeding the balanced modulators, the higher the voltage you can obtain across the windings for the same audio power, but be careful, because the amplitude of audio voltage is tied in with the amount of r.f. carrier drive the balanced modulators require for satisfactory operation. Do not try to drive the balanced modulators too hard or the output you obtain will not be s.s.b. if the tubes are overloaded, but something very different.

The foregoing audio voltage balancing of the a.f. channels will give you an approximate positioning for your audio balance control.

Check, and adjust, the r.f. phase shift network for equal voltage drives to each balanced modulator, thus getting an approximate setting for that control. Also, the metering the meter switch of the balanced modulators' metering positions.

Now, adjust your receiver gain till you have a comfortable level of tone coming from the speaker, then simultaneously adjust the "audio balance" control with one hand and the r.f. phase shift network condenser with the other hand, in exactly the same manner as you would adjust the two controls on a general purpose bridge when checking the value of an inductance or a capacity. With a little experimenting you will find a position for each control where the level of tone heard from the speaker drops to a low level, the null will be fairly sharp and quite definite. Adjust the two controls for a minimum of tone from the receiver loud speaker, in other words adjust for minimum amplitude modulation as heard on the receiver.

It will surprise you how far you can reduce the level of tone picked up through the receiver operating in its

a.m. condition. You will not be able to eliminate the tone completely because this system of s.s.b. transmission has its limitations and even a modulation level of a few per cent. sounds a large amount in a receiver when operating next to the transmitter concerned.

Your exciter is now correctly phased for that particular sideband. If you have wired in the "sideband selector switch" to give you a choice of sidebands related, throw this switch over and check the phasing of the exciter on the other sideband. You may find that a small variation is necessary, in the settings of your phasing controls for optimum results on this sideband as compared with the other sideband. If so, work to get a position where equal results are obtained on either sideband when the "sideband selector switch" is operated.

If sideband selection has not been incorporated, this is one adjustment you are saved. In actual practice the switch is seldom used.

Should the r.f. phase shift network condenser end up tuning at its maximum capacity, either adjust the slug in the network coil, or parallel a small capacity across each section of the condenser until you can tune right through the null position. It will be found that stray capacities and coupling in this circuit will have an effect upon the exact size of the r.f. phase shift network components, but the values given are approximately correct and the final sizes of components will not vary greatly from them.

If it is desired to use a c.r.o. for the phasing adjustment, couple the vertical plates via a link, to the 807 tank coil, and with either 50 cycles or internal time sweep applied to the horizontal plates, adjust the phasing controls to obtain what appears to be an unmodulated r.f. carrier, while feeding tone to the exciter. There will always be a slight indication of amplitude modulation, shown up as a small ripple on the edges of the pattern under the best of conditions.

To check operation of the audio phase shift network with a c.r.o., first check the c.r.o. vertical and horizontal amplifiers to ascertain that their phase shifts are satisfactory over the frequency range required, by connecting the c.r.o.'s horizontal and vertical inputs in parallel across a b.f.o.'s output. Adjust the gain of each c.r.o. channel to give about the same deflection. Vary the b.f.o.'s frequency, the pattern observed should be a thin straight line, having a slope of around 45°.

If you are unable to get the same sensitivity on both plates, with zero phase difference between channels, the angle of slope will change from 45° to some other figure, and the accuracy of the test will not be as good. If at some point on the frequency range the pattern is not a straight line, a little juggling of the channel gains may enable you to correct things, but you will alter the angle of slope of the pattern in doing so.

The c.r.o. having proved satisfactory, connect the two c.r.o. inputs across the two outputs from the audio phase shift network. The 6SN7GT audio driver

tubes may be removed or can be left in their sockets, it is immaterial. Do not forget to include the two voltage divider networks across the two outputs of the phase shift network in your test circuit, as these components have been taken into account when the output resistor values, R2 and R5 (in Figs. 2 and 3) have been calculated, and the divider networks can be considered as part of the complete network, though the values of the voltage divider components is not critical, as their values are so much greater than either R2 or R5 of Figs. 2 and 3.

Apply tone to the exciter and running the b.f.o. over the range from 300 to 3,000 c.p.s. should produce a pattern on the c.r.o. that is very close to circular, the closer it is the better; a circle indicating a 90° phase shift between channels. Outside the operating range the pattern will slowly change away from circular. If the phase shift is found incorrect, firstly check your circuit wiring—it is somewhat tricky—then measure your components' values individually.

The initial tuning up procedure may sound very tedious, but if all is functioning correctly it takes no great amount of time, the existing exciter can be lined up and phased now, completely, in less than five minutes. In the initial line-up the greatest amount of time will most likely be spent in making all the various tuned circuits hit the correct frequency range, a grid dip oscillator, if available, can save much time in this regard.

GENERAL

After a number of months of operation on the 14 Mc. band, with this exciter, the writer has found it quite satisfactory, stable, and easily adjusted. Frequency shifts of up to ± 100 Kc. have been made from the frequency on which the unit was lined up on, without any trouble occurring, and very little loss of drive; sideband rejection over this range of frequencies appeared to be unaltered.

S.s.b. exciters require power supplies that are well filtered. Should you find when you operate on s.s.b. that a solid low frequency hum comes up on your channel, when an a.m. receiver tunes across it, but disappears when you are tuned in as an s.s.b. signal should be tuned, investigate the filtering of your h.t. supply. If that is good, try connecting the filament of the exciter tubes to a positive voltage of about 80 volts, instead of to ground. This positive voltage prevents the cathodes becoming positive in respect to the heaters and stops any cathode-heater emission from occurring. This emission having a large a.c. component causes a loud low frequency hum.

In conclusion, I would like to state that this article has been kept as simple as possible purposely, and free of mathematical formulae, in an endeavour to make it of interest to as wide a range of Amateurs as possible. In doing so it is hoped that it has aroused some interest in s.s.b. transmission, or at least given someone a better insight of how circuits peculiar to this particular type of s.s.b. transmitter operate.

VK3WI Accurate Frequency Transmissions

There have been several changes made this year. Firstly, the time of commencement has been changed, the voice announcement taking place at 7.50 p.m. and the first Accurate Frequency Transmission at 8 p.m.

Also, to fit in with the Frequency Measuring Centre who kindly check the frequencies transmitted, it may be necessary to change the dates announced below. However, we will endeavour to give due warning of any changes, either through the magazine or over the Sunday broadcasts.

Dates for the next twelve months are as follows:—

- **Thursday, 26th February, 1953;** 7000 Kc. to 7150 Kc. in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., 7020 Kc., 7040 Kc. and 20 Kc. steps thereafter.
- **Thursday, 21st May, 1953;** 3500 Kc. to 3800 Kc. in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., 3530 Kc., 3560 Kc. and 30 Kc. steps thereafter.
- **Thursday, 27th August, 1953;** 3500 Kc. to 3800 Kc. in 30 Kc. intervals with band edge markers at 3500 Kc. and 3800 Kc. Commencing at 3500 Kc., then 3515 Kc., 3545 Kc. and 30 Kc. steps thereafter.
- **Thursday, 19th November, 1953;** 7000 Kc. to 7150 Kc. in 20 Kc. intervals with band edge markers at 7000 Kc. and 7150 Kc. Commencing at 7000 Kc., then 7010 Kc., 7030 Kc. and 20 Kc. steps thereafter.

The operating procedure and times of transmissions are as follows: 7.50 p.m. phone transmission on 7146 Kc. with a general call, and information on what is about to take place. 8 p.m., VK3WI changes frequency to 7000 Kc. and calls as follows on c.w. at 12 w.p.m. "AFT (three times), DE VK3WI (three times), then —...— QRG —...— 7000 Kc. (twice)." The key is then held down for one minute, then "QSY 7020 Kc. (twice), DE VK3WI (once), AR."

The transmitter then commences operation on 7020 Kc. and the procedure is repeated until 7150 Kc. is reached, after which there will be a phone transmission on 7146 Kc. and if corrections are immediately available, they will be broadcast at this time, also on the following Sunday broadcast over VK3WI.

The 80 metre transmissions will be the same as the former, only the voice will call on 3573 Kc. and then the checks will start on 3500 Kc. and finish on 3800 Kc. with the exception that the checks will be given every 30 Kc.

SUBSCRIPTIONS

● Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

BOOK REVIEW

4th EDITION RADIOTRON DESIGNERS' HANDBOOK

Every Amateur is familiar with the Radiotron Designers' Handbook, and I suppose the old 3rd edition resides in many a Ham shack throughout Australia today because when it was printed it filled a very definite want—a concise treatment of radio design, tabulated for easy reference.

When it was learned that a new edition of the Radio Designers' Handbook was to be printed, it was waited for with interest, but I must say I was astonished at the size of the Handbook when it arrived. The old edition had about 350 pages, the new one has 1,474 pages, in fact the only similarity seems to be in the size of the pages. The stiff cover on the new edition is a necessity to prevent the same difficulties I had with my old copy, in a book which will have constant use.

The book has seven main parts: (1) The radio valve, (2) General theory and components, (3) Audio frequencies, (4) Radio frequencies, (5) Rectification, regulation, filtering and hum, (6) Complete receiver, (7) Sundry data.

Frankly it is difficult to know where to start, because the whole book is crammed with information, but taking some items at random, the audio amplifier enthusiasts will find they are well catered for, the chapter on negative feedback occupies nearly 100 pages alone, whilst that on loudspeakers and baffles occupies 45 pages. Again the chapter on reproduction from records takes 70 pages. All information is concise and well tabulated, so that every page is filled with interesting information.

One could go on in the same strain throughout the book, but suffice to say, the claim of the authors, "that this book has packed within its covers more useful information than can be found in any other book in the world," is well substantiated, and I feel that the price of 55/- plus 2/6 postage is cheap for the information contained therein.

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A.R.R.L. CONTEST

Phone: Feb. 6-8 and Feb. 20-22

C.W.: Mar. 6-8 and Mar. 20-22

It's time again to ready your station for the A.R.R.L. International DX Competition, to be held in February and March of this year.

This contest, the nineteenth of its kind, gives an opportunity for all Canadian and continental U.S. operators to add new countries to their DX totals, other stations to fill in for their W.A.S. and W.A.V.E. awards, and everyone to match DX operating skill with other operators in his country or A.R.R.L. section. But, whether you have 8 or 9 hundred watts, whether you work 2 or 2 thousand stations, whether you have a wire out the window or a 7 element antenna, you can have a whale of a lot of fun in this annual event.

If you're new to the DX Contest, it won't take you long to catch on. During the contest period, stations outside of the U.S. and Canada will exchange numbers. If the input is 250 watts, your number is 250. If you run only 75 watts, use the number 075. If your input is different on different bands, change the number to approximate the input figure, but don't bother about 0.1 per cent accuracy on any band—the usual approximation is adequate.

The Rules for this year are similar to last year, a copy of which will be found in the February, 1952, issue of "Amateur Radio." Rules 5 and 11 are the exception. The new ones are:—

5. **Contest Periods:** There are four week-ends, each 48 hours long; two for phone and two for c.w. The phone section starts at 2400 G.C.T. Friday, Feb. 8 and Friday, Feb. 20, ends 2400 G.C.T. Sunday, Feb. 8 and Sunday, Feb. 22. C.w. sections start at 2400 G.C.T. Friday, Mar. 6 and Friday, Mar. 20, ends 2400 G.C.T. Sunday, Mar. 8 and Sunday, Mar. 22.

11. **Reporting:** Contest work must be reported as shown in the sample form. Each entry must include the signed statement as shown in that example. Contest reports must be mailed no later than April 24, 1953, to be eligible for "QST" listing and awards. All DX contest reports become the property of the American Relay League. No contest reports can be returned.

AMATEUR CALL SIGNS

FOR MONTH OF NOVEMBER, 1952

ADDITIONS

VEK— New South Wales
20H—G. R. Hodgson, 10 Ormonde Pde., Hurstville.
2ACI—H. F. Harvey, 513 Mowbray Rd., Lane Cove.
2AEM—A. E. Morales, 478 Hanel St., Albany.
2AKJ—J. H. Lambert, 4 Joffre St., Hurstville South.
2ALL—C. J. Boylan, Tumut Pde., via Cooma, 48.
2AWQ—C. C. Quinn, 31 Carrigan Cres., Summer Hill.
Victoria
3EL—S. D. Smith, 54 Essex St., Pascoe Vale.
3QY—C. W. Richardson, 298 Charman Rd., Cheltenham.
3AGJ—G. W. Jones, 30 Coolgardie Ave., East Melbourne.
3AZV—A. E. Tinkler, 28 Montana St., Burwood; mobile station, operating in Victoria.
Queensland
4CE—C. C. Adey, Mount Leyshon Rd., Charters Towers.
4VS—V. F. E. Green, 347 Rode Rd., Chermide, N.A. Brisbane.

ALTERATIONS

VEK— New South Wales
21L—R.M.R.R., Forest Farm, Darke's Forest, via Healesburg.
2PC—21 Moncrief Street, Marrickville.
2YH—11 Kirala Avenue, Wollongong.
2YN—Queen Street, Barabara.
2YV—16 Church Street, Randwick.
2AEX—14 Hughes Road, Eastwood.
2AGP—13 Seaman Street, Greenwich.
2AIM—Boundary Road, Carlingford.
2AJM—"Caringsa," Wakehurst Parkway, Seaford.
2APH—287 Longfield Street, Cabramatta.
2APW—C/o, 186 Homebush Road, Strathfield.
Victoria
3KG—18 Clayton Road, Balwyn.
3KH—Lyons Street, North Croydon.
3AHR—33 Yarrat Avenue, Balwyn.

Queensland
40X—54 Evans Avenue, North Mackay.
South Australia
5BG—C/o Station 571, Box 1, Crystal Brook.
5DE—37 Ryan Avenue, Woodville West.
5EN—Cr. Kingston and Annac Rds., Port Pirie.
5LA—76 Kingston Avenue, Daw Park, Adelaide.
5NW—Huddleston.
5TP—2012 Stuart Park, Darwin.
Tasmania
7HY—304 St. John Street, Launceston.
DELETIONS
New South Wales: VKs 2GH, 2AGE, 2AWK.
Victoria: VKs 3DF, 3ZE, 3AEM (now operating under VKAEM).
South Australia: VKs 5EM, 5QY (now operating under VKSQY), 5WQ (now operating under VKAEM).
Territories: VKSMT.

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FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES V.H.F. GROUP

144 Mc.: Bill 2ACT, of Dubbo, has a new crystal control converter, so keep an eye out for him in country stations zone, 144 to 144.1 Mc. 2TA has lost his 2 mx beam, during a gale, but he will be on again soon. He can still work Hugo 2WH at Forbes, almost 70 miles. Trevor 2NS has been hearing Sydney stations on 2 mx, wait till he gets into his new location! Newcastle stations have been coming in solid in Sydney, S9 all around. Neil 2XK with only 4w, was S9 in Sydney for three hours and no fading. Neil's rig is a mod. osc. but stable. 2BZ is the most consistent VK2 from Newcastle. 2ADT has been away on holidays, hope they were enjoyable Jack; missed you on 144 Mc.

2HL is leaving on 10th January. His QTH will be 30 miles out of Cooma and he will be 3,000 ft. high, he has 144 and 7 Mc. gear. Sid 2AVK has a much better signal on 2 now he has his beam up about 50 ft. high; S9 in Sydney. 2XK, 2ANF and 2ABO have been mobile again with fine signals.

50 Mc. News: 2WJ has worked VK9 on 50.65 Mc. Good work John, VK9s have been heard by others in Sydney. Good break throughs have been recorded in N.S.W. on 50 Mc. this month, although not as good as other States. The Ross Hull Memorial Contest is now over and it looks as though the VK4s have it in the bag. Good luck to them. Hugo 2WH has been heard in Sydney on 50 Mc. 2DQ and 2BY have also been heard at S9.—2HO.

SOUTH AUSTRALIA

The Broken Hill boys 2DQ and 2BY seemed to be getting their share on 26th Dec. Nice work, Dud! 5FP, operating portable on 288 Mc. at Kapunda, succeeded in contacting 5RR and 5JJ, of Adelaide. 5KL will be operating from Port Pirie for a few weeks. Show those Northern boys how to do it, Clarence. Talking of Ports, I wonder how they are doing over Lincoln way? Last I heard from that town, things were definitely on the move. Should you hear 5DF give him a shout.

5GL has gone walkabout for ten days or so. The contest won't seem the same without you, Clem. And what will Rollo

do? Another station doing extremely well on 26th was 4XJ. He could be heard for two or three hours working VK2, 3 and 5 Districts.

The local monitoring station recently raised objections to the current mode of operation on v.h.f. The writer still believes there is nothing illegal or objectionable to so called "cross band" operation. Regulation 36 fully justifies it. Technically, it is quite sound on our sparsely occupied v.h. frequencies. The Amateur can provide valuable information on v.h.f. propagation and the less he is restricted, the greater the information gained. It is a fact that certain services are not in the least interested in DX on these frequencies but they would like to know when not to use v.h.f. It is sincerely hoped that there will be no change in present Regulations.

5JO reports that 2K2AA on New Island has been receiving VK stations on 50 Mc. 2K2AA transmits c.w. on 50.016 Mc. at 2340 G.M.T. Saturdays and Sundays. Rumor has it that VK6HM, now located on Cocos Island will soon be active on 50 Mc. It will be remembered that Charlie was the first VK6 to work east.

30th Dec. was a field day for the VK4s—if only there had been more stations active. The band was wide open between VK4 and VK5 for 10 hours or more. 4BT passed along the information that 9FM and 9DB were heard on 29th. The writer is wondering if it was 9FM whom he heard near 51 Mc. The only clue is that the station was working someone named Graham.

If you have any ideas on making the local Intra-state v.h.f. contest more attractive this year, let the Council know as soon as possible.

5QR is always interested in making, and what is more important, keeping speeds for v.h.f. tests on 144 Mc. A word of warning, though. Reg is a progressive type and has faith only in stable equipment.

Heard a newcomer to the band (50 Mc.) asking for a test. The writer gave 5WY a call but there was no response.

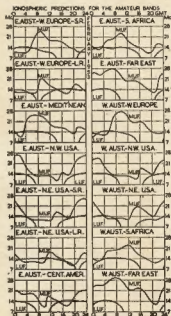
Since commencing these notes advice has been received that 5DF and 5VY are active on 144 Mc. The Adelaide boys

would be pleased to know just what times these fellows are active and would be interested to have details of the equipment in use. Was interested in the attempts of 5QR, 5BO and 5DW to work DX on 144 Mc. Suggest you guys also try when 50 is folding, not just at the height of 50 Mc. openings. Want confirmation? Look up Edward P's. accounts of 144 Mc. DX.

On the eve of mailing these notes a letter was received from 2DQ outlining the equipment in use at the Hill. 2BY is using 8095 p.p. on 50 and 2DQ 807s. Both also have xtal converters on 50 and 144 Mc. Frequencies are: 2BY 50.8 and 144.4 Mc., and 2DQ 50.45 and 144.55 Mc.

The third day of the New Year saw the band open in VK5 for some twelve hours. Contacts were made with ZL, VK9, 2, 4 and 6. 5BZ made a welcome re-appearance on 50 during the week. EK-5LW made some personal contacts over the holiday period. His old pals were pleased to see him.

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DX COUNTRIES OF THE WORLD

The List of countries as hereunder, and as amended from time to time in Federal Notes, is the Official List to be used in connection with the issue of the Australian DX C.C. Award.

The list below shows first the Country, the Zone number in parenthesis (as used by the "CQ" W.A.Z. Award) and the Amateur Prefix.

Aden & Socotra Is. (21) VS9
 Afghanistan (21) YA
 Alaska (1) KL7
 Albania (15) ZA
 Aldabra Islands (39) ...
 Algeria (33) FA
 Andaman & Nicobar Is. (28) ...
 Andorra (14) PK, YB4
 Anglo-Egypt. Sudan (34) ST
 Angola (38) CR6
 Argentina (13) LU
 Ascension Island (36) ZD8
 Australia (inc. Tas.) (29, 30) ... VK
 Austria (15) (MB9) OE
 Azores Islands (14) CT2
 Bahamas Islands (8) VP7
 Bahrain Island (21) MP4B
 Baker, Howland & Am.
 Phoenix Is. (31) KB6
 Balearic Islands (14) EA6
 Barbados (8) VP6
 Basutoland (38) ZS9
 Bechuanaland (38) ZS9
 Belgian Congo (36) OG5
 Belgium (14) ODJ
 Bermuda Islands (6) VP9
 Bhutan (22)
 Bolivia (10) CP
 Bonin & Volcano Is. (Iwo Jima) (27) ... KG6
 Borneo, Brit. Nth. (28) VS3
 Borneo, Netherl'ds (28) PK5
 Brazil (11) PY
 Brunel (28) VS5
 Bulgaria (20) LZ
 Burma (28) XZ
 Cameroons, French (36) FE
 Canada (2, 3, 4, 5) VE, VO
 Canal Zone (7) KZ5
 Canary Islands (33) EA8
 Cape Verde Is. (35) CR4
 Caroline Islands (27) KC6
 Cayman Islands (8) VP5
 Celebes & Molucca Is. (28) ... PK6
 Ceylon (22) VS7
 Chagos Islands (39) VQ8
 Channel Islands (14) G
 Chile (12) CE
 China (23, 24) (B) C
 Christmas Is. (29) ZC3
 Clipperton Is. (7) FO7
 Cocos Island (7) TI
 Cocos Islands (29) ZC2
 Colombia (9) HK
 Comoro Islands (39) FB8
 Cook Islands (32) ... ZK1
 Corsica (15) ...
 Costa Rica (7) ... SV
 Crete (20) ... CM, CO
 Cuba (8) ...
 Cyprus (20) (MD7) ZC4
 Czechoslovakia (15) ... OK
 Denmark (14) ... OZ
 Dodecanese Is. (Rhodes) (20) ... SV5

Dominican Republic (8) HI
 Easter Island (12) ... HC
 Ecuador (10) (MD5) SU
 Eire (Irish Free State) EI
 England (14) G
 Eritrea (37) (MD3) M16
 Ethiopia (37) ... ET
 Faeroes, The (14) ... OY
 Falkland Islands (13) VP8
 Fanning Is. (Washington Is.) ... VR3
 Fiji Islands (32) ... VR2
 Finland (15) OH
 Formosa (24) C3
 France (14) F
 French Equa. Africa (36) FQ
 French India (22) ... FN
 French Indo-China (26) FI
 French Oceania (Tahiti) FO
 French West Africa (35) FF
 Fridtjof Nansen Land (Franz Josef Land) (40) ... UA1
 Galapagos Is. (10) (HC8)
 Gambia (35) ... ZD3
 Germany (14, 15) ... ZB2
 Gibraltar (14) ...
 Gilbert, Ellice & Ocean Is. (31) ... VR1
 Goa (Portu. India) (22) CR8
 Gold Coast (and British Togoland) (35) ... ZD4
 Greece (28) SV
 Greenland (40) OX
 Guadeloupe (8) ... FG
 Guantanamo Bay (8) KG4
 Guatemala (7) ... TG
 Guiana, British (9) VP3
 Guiana, French, and Guiana, Netherlands (Surinam) (9) PZ
 Guinea, Portuguese (35) CR5
 Guinea, Spanish (35) EA0
 Haiti (8) HH
 Hawaiian Islands (31) KH6
 Heard Island (39) ... VK1
 Honduras (7) ... HR
 Honduras, British (7) VP1
 Hong Kong (24) ... VS8
 Hungary (15) ... HA
 Iceland (40) TF
 Ili (32) ... VU
 India (22) ... EP, EQ
 Iran (21) (MD6) YI
 Ireland, Northern (14) GI
 Isle of Man (14) ... GD
 Israel (20) ... 4X4
 Italy (15) ... I
 Jamaica (8) ... VP5
 Jan Mayen Island (40)
 Japan (25) ... JA
 Jarvis & Palmyra Is. (31) ... KP8
 Java (28) ... PK
 Johnston Island (31) KJ6
 Kenya (37) ... VQ4
 Keruelon Is. (39) ... FB8
 Korea (25) ... HL
 Kuwait (21) (VT1) MP4K
 Laccadive Is. (22) VU4
 Lebanon (20) OD5, AR8
 Leeward Is. (8) ... VP2
 Liberia (35) ... KL
 Libya (34) 5A2 (MC1, MD1, MD2, MT2)
 Liechtenstein (15) ... HEI

Luxembourg (14) ... LX
 Macau (24) ... CR9
 Macarquis Is. (30) VK1
 Madagascar (39) FB
 Madeira Islands (33) CT3
 Malaya (28) ... VS2
 Maldives Islands (22) VS9
 Malta (15) ... ZB1
 Manchuria (24) ... C9
 Marianas Is. (Guam) (27) ... KG6
 Marion Is. (and Prince Edward Is.) (39) ZS2
 Marshall Islands (31) KX6
 Martinique (8) ... FM
 Mauritius (39) ... VQ8
 Mexico (8) ... XE
 Midway Island (31) KM6
 Miquelon & St. Pierre Is. (5) ... FP
 Monaco (14) ... 3A2
 Mongolian Rep. (Outer) (23) (JT)
 Morocco, French (35) CN8
 Morocco, Spanish (35) EA9
 Mozambique (37) ... CR7
 Nepal (22) ... VU7
 Netherlands (14) ... PA
 Netherlands West Indies (9) ... PJ
 New Amsterdam Is. (29) FB8
 New Caledonia (32) FK
 New Guinea, Neth. (28) PK7
 New Guinea, Territory of (28) ... VK9
 New Hebrides (32) ... FU, YJ
 New Zealand (32) ... ZL
 Nicaragua (7) ... YN
 Nigeria (35, 36) ... ZK2
 Niue (32) ... ZK2
 Norfolk Island (33) VK9
 Norway (14) ... LA
 Nyasaland (37) ... ZD6
 Oman, Trucial (21) ... MP4
 Pakistan (22) ... AP
 Palau (Pelew) Is. (27) KC6
 Palestine, Arab (20) ZC8
 Panama (7) ... HC
 Papua Territory (28) VK9
 Paraguay (11) ... ZP
 Peru (10) ... OA
 Philippine Islands (27) DU
 Pitcairn Island (32) VR6
 Poland (15) ... SP
 Portugal (14) ... CT1
 Principe & Sao Thome Is. (36) ...
 Puerto Rico (8) ... KP4
 Reunion Island (39) FR7
 Rhodesia, North. (36) VQ2
 Rhodesia, Southern (38) ZE
 Rio de Oro (33) (EA6)
 Rumania (20) ... YO
 Ryukyu Is. (Okinawa) (25) ... KR6
 Saarland (15) ... 9S4
 St. Helena (35) ... ZD7
 St. Paul & New Amsterdam Is. (39) FB8
 Salvador (7) ... VS
 Samoa, American (32) KS6
 Samoa, Western (32) ZM
 San Marino (15) ... (MC1)
 Sarawak (28) ... VS
 Sardinia (15) ... IS
 Saudi Arabia (Hedjaz & Nejd) (21) ... HZ
 Scotland (14) ... GM

Seychelles (39) ... VQ9
 Siam (26) ... HS
 Sierra Leone (35) ... ZD1
 Sikkim (22) ... AC3
 Singapore (28) ... VS1
 Solomon Is. (28) ... VR4
 Somaliland, British (37) (MD4) VQ6
 Somaliland, French (37) (MD4) FT
 Somaliland, Italian (37) (MS4, MD4)
 South Georgia (13) VP8
 South Orkney Is. (13) VP8
 South Sandwich Is. (13) VP8
 South Shetland Is. (13) VP8
 Southwest Africa (38) ZS3
 Soviet Union:
 European R.S.F.S.R. (16) UAI, 3, 4, 6
 Asiatic R.S.F.S.R. (17, 18, 19) UA6, 0
 Ukraine (16) UB5
 Belorus'n S.S.R. (16) UC2
 Azerbaijan (21) UD6
 Georgia (21) UG6
 Armenia (21) UF1
 Turkmen (17) UH8
 Uzbek (17) UI8
 Tadzhik (17) UJ8
 Kazakh (17) UL7
 Kirghiz (17) UM8
 Karelo-Finnish Republic (16) UN1
 Moldavia (16) UO5
 Lithuania (15) UP2
 Latvia (15) UQ2
 Estonia (15) UR2
 Spain (14) ... EA
 Sumatra (28) ... PK4
 Svalbard (Spitzbergen) (40) ... LB
 Swan Island (8) ... KS4
 Sweden (38) ... ZS7
 Sweden (14) ... HB
 Switzerland (14) ... HB
 Syria (20) ... VK
 Tanganyika Ter. (37) VQ3
 Tangier Zone (33) EK, KT1
 Tannu Tuva (23) (TT)
 Tibet (23) ... AC4
 Timor, Portuguese (28) CR10
 Togoland, French (35) FD
 Tokelau (Union) Is. (31)
 Tonga (Friendly) Island (32) ... VR5
 Transjordan (20) ZC1, JY
 Trieste (15) AG2, MF2
 Trinidad & Tobago (9) VP4
 Tristan da Cunha and Gough Is. (38) ZD9
 Tunisia (33) (FT) 3V8
 Turkey (20) ... TA
 Turks & Caicos Is. (8) VP5
 Uganda (37) ... VQ5
 Union of S. Africa (38) ZS
 United States of America (3, 4, 5) ... K, W
 Uruguay (13) ... CX
 Vatican City State (15) HV
 Venezuela (8) ... YV
 Virgin Islands (8) KV4
 Wake Island (31) KW6
 Wales (14) ... GW
 Windward Is. (8, 9) VP2
 Wrangell Island (19)
 Yemen (21) ... (4W)
 Yugoslavia (15) ... YU
 Zanzibar (37) ... VQ1

DX NOTES BY VK7RK*

This game of DX hunting goes through many and varied phases. Some two or three years ago one went DX chasing at any odd hour of the day or night and almost invariably there was some choice bit of DX waiting to swap reports and promise faithfully to QSL—sometimes they did, but often some mishap occurred between QSO and mail box. So, said the gang, "Ham Radio is fine, the bands are wide open and everything in the garden is lovely."

However, the phase changes and it is not now a case of just pushing the key any old time and having the world and his brother on your door step. So, the cry goes up that the bands are terrible, DX a thing of the past and life has lost its interest. The consequence, a lesser number chasing DX which means less for the other fellow to work and so the cycle goes on. But don't be misled by all this talk of poor conditions. Pick your operating times and go chasing it. The same DX is there waiting to QSO you, the same slips still occur on the way to the mail box, and the garden is still lovely if you look at it during the right hours.

This month's listings bear witness to this remark even though activity seems to have been confined mainly to our old standby—14 Mc.

3.5 Mc. has been handed back to its original occupant, QRN, although Eric B.E.R.S.195 did hear SKO working on this band but have no details of any results.

7 Mc. has also produced more than its fair share of QRN, but through it B.E.R.S.195 logged such stations as KG6AAV, VQ4HJP, VQ4AQ, MB9CA, ZC4QT, KC8QY, 854BE, 4X4DF, VS8CC, F4BIO, ZC5VS, CTICF, OE7FA, SU1FX, OE13RN and SM8VGC on board ship in the Bay of Biscay. 3AHH had an interesting phone QSO with K6EV cross-band with the K6 on 3.5 Mc. C.w. activity from Hans included DL8GB*, VETVX*, CTICF, Y12AM, 4X4DK and the usual run of Europeans between 1800z—2200z. 2AMB confirmed relations with Ceylon by working VS7NG*, VS7NB*. Was very pleased to receive some comments from another VK3 s.w.I. Don Granley, who also hears plenty of Europeans during the early mornings and mentions HB9EO, OK1MB, I1ALU, UA1KAL. Ws and VEs are still workable, QRN permitting, most evenings around 0900z to 1300z.

14 Mc. seems to have claimed most attention this month and even the most hardened members of the fraternity will surely admit that these listings contain some really worthwhile DX. Eric B.E.R.S.195 logged the following countries: OD5, FB8, 5A2, 5A3, KAO, OX3, FQ8, FN8, FB8, VQ4, EA8, CR7, M13, LU6, LU7, LU8, HR1, FQ8, and CR9. The band opens regularly every night to Europe and Africa at the QTH of 3AHH and Hans lists FB8ZZ*, KGJAX*, AP2R*, KG4AF*, VS2DE*, OD3AB*, YK1AH* who was worked with the year but a

few minutes old. Others heard were F18DJ, AP4A, VU2NB, LU8AJ, E18J, MP4BBD, KW6BB, 4X4FQ, IS1FIC, 5A3T2. 2AMB left 7 Mc. to the QRN and Ws and found 4X4FQ*, JY1BE, OD5AB, MP4KAC and LZ1KAB. Don Granley is most enthusiastic about his initial visit to this band with the observation that 14 is really the goods and don't I agree. Don lists: AP2, CO2, CO7, CM2, CN8, DU1, EA3, FB8, FN8, IS1, KV4, KJ8, KP4, KX6, M13, OH5, OE3, OE13, PA0, T12, VS6, VS2, VST, VK1, YU1, Y13, 4X4, 5A3, as well as the more common ones.

An interesting letter from 3AWW tells of stations like TA3AA*, ZB2I*, LZ1KAB* (I think everyone has worked this station now, it appears to be operated by a club), SU1GG*, FB8BE* and ZS9I, CR7AU. Bill is another who comments that ZS is fairly easily worked during afternoons, in some cases as early as 0430z. My own observations conform mostly to the preceding reports with the exception that I can't envious eyes at the FB8 calls. A few countries noted here were M13*, OD5, FB8, VQ4, TA3*, 5A3, ZS6, MP4, 4X4, ZC4, KP4, KG4, KV4, CO2, KJ8, HB8, LZ1, VU2, VS2, FK8, OZ1, OH1, EA3, LA3, E15, YU2, UG6, GW3, OE5, GC4, plus the more common Europeans during late evenings, JA, KA, VS8, DU, KG6, etc, evenings and W, VE, long path around 2000z to 2200z.

The phone logs are also fairly comprehensive this month, being, from B.E.R.S.195 VR3C, VR4AE, VQ4AC. 3AHH: ZS1H*, ZM6AA*, KB8AO*, MP4KAC, HC1FG, KR8AC, VR3C, and VS9AW

From Burnie, 7KB really christened his new beam in a big way, working the following countries: VR4, VR3, VS9, SUB, OD5, HZ1, MP4, F18, MP2, ZC4, IS1, YK1, Y12, VV5, HR1, AP2, HS1, YU1, FK58, 3A3, LU1, 4X4, KT1, ZM6, ZE1, ZE3, VQ5, CR7, FB8, VK1, M13, and a string of ZS calls. Ian does not list any as only heard so it looks as though the beam works everything that is hearable

From 2AMB comes JA2TO* and HC2JMR*. From 4XJ: ZK2KN*, LU3PF*, KA2OM*, VS1FE*, DL4DU*. From Don Granley MP4KAC and VK8RC. From 3AWW worked: F18, 5A2, VQ4, MP4, ST2, VS9, OD5, SU5, HZ1, YK1, ZS6, ZS1, ZS2, Y12, and heard ZS9, CR7, ZB1. 7BK logged OD5BH, OD5AB, HZ1AB, HZ1MY, MP4KAC, TAEZFA, VU2AT. From 6DX via CCK, the date that Chari Holman, ex-VK8RM, and now VK1HM on Cocos Island is listening nightly for VK contacts at 1300z on 14160 Kc. with a.b.f.m. pending repairs to his a.m. equipment.

21 Mc. couldn't be expected to stand up under that sort of competition from 14, but 2AHH was justifiably happy with his first South American QSO on this band with CE3CZ* at 1030z on 18th Dec. on phone. Also worked LX1SI* and IS1FIC* to bring his total to 30 on 21 Mc. 7RK spent less time here, but it seems to me that the Europeans are peaking later now and seem to be at

their best around 1130z. Openings are fewer than last month and short skip more often. Among those heard were HB9EO, OE3CA, OH5NK, DL7AA, PA0KX, AP2K. B.E.R.S.195 logged VS1AY on phone. From SPN I learn that VK1RG is active on 21 Mc.

28 Mc: What would I do without 4XJ? Once more he's the only starter here with W6LUR*, W6CUE*, KHAJG* KA2VP*, KA2AG*, and W1WDI/MM in the North Pacific.

QSLs of interest this month are 4QL: FQ8AC, FB7ZA, FB8AJ, ZC4XP, FY7YC, FB8ZZ, CR7CN and CR9AF for a 7 Mc. QSO. 3AWW: TA3AA, LZ1KAB, 7RK: YS10, SP1JF, VK1BS, ZM6AA, CO2OE, OH5NK.

Two QTHs of current interest: TA3AA Lt. Comdr. A. Kivlinis, Tsung, Jamail, 243 Atotok Blvd. Ankara, or c/o A.P.O. 206A, P.M. B.X. MISLK: Box 374, Asmara, Eritrea.

In conclusion once more many thanks to all those who forwarded notes. Without your help it would be impossible.

DX C.C. LISTING PHONE

Call	No. Ctr.	Call	No. Ctr.
VK4HS	13 199	VK4WJ	17 195
VK4BZ	3 193	VK4WV	39 116
VK4BZ	10 163	VK4VP	8 114
VK4BZ	16 160	VK4WV	3 109
VK4BZ	2 182	VK4WV	34 109
VK4BZ	11 161	VK4WV	13 108
VK4BZ	4 150	VK4WV	3 107
VK4BZ	8 141	VK4WV	20 103
VK4BZ	31 141	VK4WV	19 101
VK4BZ	16 141	VK4WV	3 100
VK4BZ	7 133	VK4WV	8 100
VK4BZ	16 130	VK4WV	18 100
VK4BZ	6 126		

C.W.

Call	No. Ctr.	Call	No. Ctr.
VK4BZ	13 199	VK4WJ	17 195
VK4BZ	3 193	VK4WV	39 116
VK4BZ	10 163	VK4VP	8 114
VK4BZ	16 160	VK4WV	3 109
VK4BZ	2 182	VK4WV	34 109
VK4BZ	11 161	VK4WV	13 108
VK4BZ	4 150	VK4WV	3 107
VK4BZ	8 141	VK4WV	20 103
VK4BZ	31 141	VK4WV	19 101
VK4BZ	16 141	VK4WV	3 100
VK4BZ	7 133	VK4WV	8 100
VK4BZ	16 130	VK4WV	18 100
VK4BZ	6 126		

OTHER

Call	No. Ctr.	Call	No. Ctr.
VK4BZ	4 280	VK4WJ	17 195
VK4BZ	7 310	VK4WV	39 116
VK4BZ	16 285	VK4VP	8 114
VK4BZ	13 190	VK4WV	3 109
VK4BZ	8 186	VK4WV	34 109
VK4BZ	16 186	VK4WV	13 108
VK4BZ	3 171	VK4WV	3 107
VK4BZ	13 171	VK4WV	20 103
VK4BZ	3 170	VK4WV	19 101
VK4BZ	1 187	VK4WV	3 100
VK4BZ	10 187	VK4WV	18 100
VK4BZ	24 187	VK4WV	11 106
VK4BZ	21 184	VK4WV	3 105
VK4BZ	28 183	VK4WV	32 101
VK4BZ	20 182	VK4WV	33 100
VK4BZ	21 182	VK4WV	35 100

* 9 Galvin Street, Launceston, Tasmania.



FEDERAL

MORE ACTIVITY ON THE 21 Mc. BAND

The British Post Office has at long last granted the remainder of this band to the Gs for telephonic use, subject to the usual prohibition which applies to first-year licenses and to non-interference with existing services in that country.

Although telephony is now permitted throughout the band, the R.S.G.B. is urging all UK Amateurs to adhere to the combined R.S.G.B. and European Band Plan which recommends that frequencies between 21050 and 21150 Kc. should be used for telephony only and those between 21150 and 21450 Kc. for both telephony and telephony.

It might be as well for Australian Amateurs desiring to use telephony to make provision for designing antennae—particularly beam antennae tuned sharply to a narrow band of frequencies—for maximum operation in the "planned" telephony section of the 21 Mc. band.

Another country to obtain permission for operation in this band is South Africa: ZS calls should be sufficient to entice a few more VKs to participation in what is still considered to be THE DX band in the not too far distant future. Finland Amateurs also are permitted to use c.w. and phone now on 21 Mc.

TELEVISION INTERFERENCE BOOKLET

The long awaited shipment of the booklet, "Television Interference," edited by Philip S. Rand, WIDBM, and distributed free from the Remington Rand Laboratory of Advanced Research, South Norwalk, Connecticut, U.S.A., has at last arrived and been steered carefully through the sea of red tape surrounding the Customs Office at a cost in hard cash of no less an amount that it hardly bears mention; the cost in honorary man hours to obtain possession of a free gift is, however, more than worthy of a mention, but that is another story which may be recorded some time in all its colorful, humorous and annoying representation of musclebound officialdom. Remind us to tell you some time!

By the time this issue of the magazine goes to press those interested members and readers who wrote in to reserve a copy of this really handsome booklet will have received their copy. There is quite a quantity of copies to spare, and unless we miss our guess there will be a wild panic for copies once the "ordered" copies have been received and seen by others. But don't be disappointed if you miss out because there are insufficient copies to give one to every member of the W.I.A. A request to writing to the Federal Secretary, W.I.A., Box 2611W, G.P.O., Melbourne, C.I., enclosing 7d. in stamps to cover postage will bring a copy to everyone who writes, these will be distributed in strict order of receipt of request until stocks are exhausted. And please remember, if you miss out, your postage cannot be refunded, but will be paid into Institute funds. Let's hear from you.

48th STATE FOR THE U.S.A.

Republicans, now in control of the United States Congress, have said they will soon be adding a 48th State to the Union. Advances have been made to General Eisenhower to agree to changing the status of Hawaii from "territory" to "state" and the General has said that Hawaii would get statehood soon.

This is all very interesting with the inherent problem of where to put the 48th star in the pattern of the Stars and Stripes flag. But what effect will it have on Amateur Radio?

Today the Hawaiian Islands under the call sign prefix, KH6, is recognised as a country for anybody's DX C.C. What happens if Hawaii

itself becomes a State of the United States of America? If it's a State it can't be a separate country; it's too far away—it would seem to be in any W zone, the U.S.A. as it is at present is zoned into areas for call prefix purposes, i.e. under W and K prefixes.

Quite interesting to conjecture on what will happen. Perhaps the powers that be in America will leave it as it is for Amateur purposes and still call it a country!

One interesting thought is that, as a State of the U.S.A., one or two VKs can say they have worked America on six metres!

W.I.A. FEDERAL CONVENTION

Although the Divisions—with the exception of VKs, who abstained from voting—were unanimous at the 1951 Convention in agreeing to hold the Federal Convention every two years because of rising costs, they have now reversed their decision in favour of at least holding the function as usual over the Easter break this year in Melbourne.

This does not necessarily rescind the Federal Council's decision to amend the Federal Constitution to provide for the Convention to be held annually, or at any longer period of time as the Council may decide from time to time.

But it does seem to indicate that members should take time off to study what appears to be a matter difficult of decision by Divisional Councils collectively, to see that the next delegate to a convention is really briefed to decide these issues once and for all.

Anyway, the Convention will be held, so let's hope that there are fewer agenda items to discuss and more time to discuss them, and that they are real "history-making" ones.

FEDERAL QSL BUREAU

JYIAL, George Haley, R.A.F., Amman, Jordan, solicits contacts and reports. He and JYJXY, also JYJBE, are on 14 Mc.

The S.R.A.L. (Finland) advises that OH Hams have been granted the 21 Mc. band as from 1st November last. 21000-21150 Kc. has been allotted to telephony only and 21150-21450 Kc.

SILENT KEY

It is with deep regret that we record the passing of:—

VK2IS, Ivan Shearman, 27/12/52.

VK2AIA, Jim On 1/1/53.

Ex-VK2AJF, Wal. Lloyd. 14/12/52.

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VALE WALLY LLOYD, EX-VK2AFJ

Amateur activity in Newcastle probably remember the late Wally Lloyd was the first in the district to build a relay beam. The tower and boom, constructed mainly of driftwood, erected at Wally's QTH at North Stockton. The elements were wire (no dural then), with bamboo spreaders, and with a 1000-watt, 2000-volt, 5000-cycles W.R.R. etc., in 12 months Wally was always an ardent supporter of the W.I.A. and did all V.F.O. power to encourage others to do so.

An employee of the P.M.O. at Stockton, Wally joined the Civil Aviation Dept. as an Aeradio Operator just prior to World War II. He was stationed at Eastenders, Victoria. While there he fire destroyed all his possessions including Ham gear, and although he was able to replace them, he retained his Ham friendships. His next move was to King Island after which he was promoted to O.I.C. at Longreach Queensland, where he served for three years. At the time of his death he was Senior Communications Watch Supervisor at Brisbane Aeradio.

On 14th December on his way to Newcastle with his wife for annual leave, Wally suffered cerebral haemorrhage and died instantly. His death was brought to Newcastle by his friends of many years duration acted as pall-bearers: they were VK6 BEZ, ZARA and ZAEK of the Newcastle W.I.A. He will not be forgotten by many Hams whom he encouraged in the earlier days, and to whom he gave every possible assistance.

VALE IVAN SHEARMAN, VK2IS

When Ivan Shearmen, VK2IS, passed from this life on 27th December, 1953, at the early age of 37 years, he left behind a host of evidence of his good deeds. He was a Hunter Branch of the W.I.A. and was one of the organisers in Newcastle to benefit from his organising ability and gift of entertaining. When the Branch started its first Xmas Party in December, 1951, Ivan played no small part in making it the huge success it was. From the moment he was elected to the Committee he didn't let up: whether it was assisting the ladies in the tremendous task of buying presents for the kiddies or playing the piano—as only he could—or being M.C. This was typical of him and the manner in which he undertook the countless jobs asked of him. He often as producer, script writer, composer, actor and pianist, raised thousands of pounds for charities and voluntary organisations. His energy was amazing and he passed on to his fellows his tremendous enthusiasm for the project in hand.

Ivan was always interested in radio, but on leaving school he became apprenticed as a plane tuner, at which job he excelled. With his apprenticeship completed at an early age, and World War II in full swing he joined the Newcastle Squadron Air Training Corps and quickly became a Sergeant. Soon as he was of age he joined the R.A.A.F. and trained as a Radar Operator. While serving in the Far North he played a large part in organising and entertaining service personnel. On discharge Ivan assisted the Newcastle Air Force Association with stage productions, etc.

The radio bug soon started biting strongly, and Ivan joined the W.I.A. as an Associate, but in October, 1950, gained the A.C.P. and a licence on 40 metres. Unlike most Hams who begin on the lower frequencies, Ivan started on 14 Mc putting a good signal all over the Hunter Valley with a mod. exc. and 8/1 beam. Early in 1951 he migrated to 7 and 14 Mc and his chummy voice was soon heard on air and popular; even those who knew him by voice only felt his enthusiasm and yet Ivan's artistic gift was shown in the layout and elegant scheme of his rig. A lot of good recordings, Ivan built many tube amplifiers, and experimented with various modulation systems on his rig. Also during the period he worked he operated with Hunter Branch teams in National Field Days and Urrunga Conventions. Although not so active in 1953, he was still keen and hoping soon to devote more time to radio.

His was the true Ham spirit and he was always ready to help a few Amateurs. The funeral was attended by hundreds of people representing all sections of Newcastle. Hunter Branch of W.I.A. was represented by Vice President, John Clarke, 2DE, and many Amateurs and Associates. Harold Whyte, ZARA, acted as pall-bearer. The flower-bearing Stockton local band (purchased with money raised by Ivan's efforts) marched on a trailer, carrying the casket to the Crematorium. The beautiful funeral service was later placed on the War Memorial. Amateurs will remember VK2IS.

to both c.w. and phone. Additionally the 3.5 Mc band has been subdivided, 3500-3600 Kc. to telephony only and 3600-3900 Kc. telephony only.

The correct address of the QSL Bureau for Alaska is Box 73, Douglas, Alaska. The full address of the EI Bureau is: EISZ, D. J. EISZ, 23 Orwell Gardens, Rathgar, Dublin, Eire.

GID3RS, Stan Shonfield, 11 A.M.Q. R.A.F., Junior Officer, is a 2nd Lt. and is now in the YZIAM in the R.A.F. Hq. Radio Club, Habbaniya, 3 F.O. 19, British Forces, Iraq, while YZIE is in F.O. Dobson (ex-SULP) at the same address.

VQ5CY advises through VK6MK that he has now despatched QSLs to all VK stations. As they are coming surface mail, it may be some time before they reach Australia. VQ5CY is particularly anxious to contact VK1 and VK7 stations. He is on phone around 1400 G.M.T. on 14225 Kc.

W. C. Gee, VK6WFG, is returning to his home address in Sandy Bay, Hobart, in April. Related cards relating to contacts at end of 1951 have just arrived from CE7ZQ.

The first Ham Festival in India took place at Delhi from 15th to 13th January. Many stations accepted the opportunity to contact a bunch of VU Hams who attended the Festival and were active on 7, 14 and 21 Mc. Unfortunately, the information on the event did not arrive in time to permit of advance publicity. The Festival was sponsored by the Delhi Amateur Radio Society.

NEW SOUTH WALES

The December meeting of the N.S.W. Branch was held at Science House on Friday, the 19th, under the chairmanship of the President, John Hoyle. The meeting was well-attended, on account of Xmas and was of a rather special nature for the same reason. After the usual formalities including minutes, correspondence, etc., the motion regarding the rise of the pence per copy of "A.H.T." of which notice had been given at last month's meeting, was debated. To our shame be it noted that the motion was lost by a small majority. The writer for one, did not think it possible that any meeting of this Division would vote in favour of the termination of our official organ! One prefers to think that after a lengthy debate, the motion not being read again before the vote, some of those who stood against the motion were clear as to just how they were voting and thought they were voting against the eclipse of the Journal! One can only hope that the other States will carry the day in favour of the increase and so allow its publication to continue.

The remainder of the meeting was devoted to films, the talks machine being operated by our Treasurer, Stan Owen. Four films were shown. The first was one by Charles Clegg, who has been enriched with sound effects. Then came "Textiles Unlimited" dealing with the textile industry in the U.S.A. The third was "Television is here again" which gives an account from the inside of the BBC television service, and finally "The Littlest Angel" which brought our thoughts back to Christmas. The films were much appreciated and after the meeting, supper was served in the adjoining room by way of a special Christmas gesture.

WESTERN AUSTRALIA

We regret to state that one of the older Hams has passed on. We refer to B.A. of Stratfield. Jim has been ill for some months and has been confined to his home, but as his friends were hopeful of a speedy recovery for him, it became necessary for him to undergo a serious operation and his passing took place on the afternoon of New Year's Day. To his widow goes our deepest sympathy.

ZAA8 has done things to the modulator and the same effort is coming up at ZACD, having seen the light. ZAPT is soon getting organised with the 70 ft. mast and we must be able to get the signal over the new power wires. XCN and ZVY have been holidaying, as has ZNJ, so you cannot expect the usual ZVY signal. ZOL gets out, increased the height of the antenna to about 12 ft. ZAIR now located in VKR—still YY and AA—after and still in the air on c.w. ZQS doing good work with his gear, good audio Phil. ZIV is heard quite frequently double transmits into the time with other activities, operates on 20 and 30 ft. ZVY has been on again of late, pleased the time has not all run out Bob. ZAPL puts out nice signal from Fremantle, still in the air. ZVY is hard on the air.

ZAEK is doing very well, in the few weeks on the air has worked a lot of DX, a G on the first night of the season, and a lot of other work. ZAGK gets around also, signal getting better and better ZAGG and ZARF are a closed book to us here as we are not up to date. ZAGG came in the winter. ZAXX and ZASW went off to Adelaide for the Xmas festivities and had a real good time. ZARA is another on holidays,

presumably giving the North Coast a go. ZACD heard occasionally as is another from that area, IABD, that fellow gets on 144 and 21 Mc. ZABD, who is a 2nd Lt. in the R.A.F. at Xmas Party last month, quite an affair as many may be able to tell. Meetings are held regularly on Tuesdays at Greenwood Hall, Liverpool Road, Salford, buses pass the door. Visitors welcome at all times.

ZAAH has a nice vertical antenna which does a fine job under the beam will be up there one day soon we hear tell. Please pass any news along to ZACD.

QUEENSLAND

Although we knew he was very ill, it was still a great shock to most of us when Ivan Shearmen, ZIS, passed away two days after Xmas. Those of us who operated in Newcastle were also shocked at the sudden death of Wally Lloyd who was ex-ZAFJ. We were further grieved by the death of Bryan, 8-year-old son of former Vice-President, ZAFS, who died as a result of fire which destroyed the home and everything it contained. Our President C.S. and Management Committee attended the funeral, and expressed the sympathy of all to Bob and Mrs. Wilson.

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VICTORIA

A visitor to Newcastle over Xmas was G.R. of Townsville, who was escorted around the local shacks and taken on night seeing tours by Johnnie 2DZ. Rex proved a worthy ambassador for northern VKs and was very grateful to all who entertained him. A number of visitors who came from all parts to our Xmas Social took the opportunity of looking over the local shacks and we enjoyed having them.

The locals followed the Hobart Yacht Race with interest as SVI was operator on Nirvana; Geoff had "ups and downs" but put out a constant signal. Jim 2ZC and family unselfishly sacrificed first part of holidays to help with Xmas Party but the Foster fish got a hiding later. Also gone portable with newly built Tx and Rx using miniature tubes is 2RG. Ken is on round trip to Woolgoolga. Dave 2BZ very pleased with Lambton QTH for v.h.f. despite the QRM! 2OT demonstrates great advantages of steel controlled converters. Max will soon have 50 Mc. job perking giving him complete all band coverage. Good to hear 2AAI on 10 again. The news from Mulland is that 2DG lent his 2nd op's motor bike to 2TY for trip to VK3—a 10 mhz special! 2XQ on most bands but hard man to catch. Joe 2ANI has moved into Coole City from Mulland and expects to put out night siss from the "Hill." 2XY got some nice 80 mhz DX using two half waves in phase and hearing VK and XL on 8 with 2ANT's Rx. 2AGY on 6 and 8—working into Big Smoke on latter band. Doug 2ADS struck the jackpot on 6 and rattled up big score in contest. Over festive season Lew 2WU was active on 30, 2WP holidayed down south; Bill may change parallel 807s in TAIG to push-pull. 2FY has acquired 400 a side tranny and will probably use it on new ABZ or Class B modulator. Xmas brought George 3AGD and Bert 2CN on 40 again and they both puzzled at the idiosyncrasies of motors, rotors, etc!.

Vice-President 2DZ, encouraged by 4LR, got the Rothman rig going again over the festive period. Our Secretary 2ZF somehow found time to catch some choice late night 40 mhz DX. V88 and V87, and Varley just missed a Vge! Treasurer 2KT expects to be chasing 30 mhz DX soon with new rig and rotary beam. 2AHA and family spent Xmas at Karuah, and were joined on Boxing Day by 2ANA—some "807s" mixed with crystal were tested! Zrula 2TF helped the Vice-President do some entertaining, and acted as traffic guide too! The gang were pleased to meet Harry 2AFK at Xmas Party.

QRL with work are Lakelanders 2KQ, 2AFA and 2AAM. As for Spent's missed A.C.C. by whicker, but he'll do it next time. 2AXM's Bendix factory now has 310 Rx.

Notice of Meeting.—Thanks to co-operation of Technical College Principal, the February meeting will be held on SATURDAY, 14th, when it is anticipated the Sydney V.H.F. Group, led by President John Miller, 2ANF, will demonstrate v.h.f. equipment. Note Saturday.

HUNTER BRANCH XMAS SOCIAL

The 2nd Annual Xmas Party of the Branch was even more successful than the first one, and we had more visitors from distant parts than last year. What is now known to many as the event of the year was held at Henderson Park Hall, Merewether, on Saturday, 13th December. On arrival, guests found the hall beautifully decorated with balloons and streamers, and in the centre a multi-element Xmas Tree covered in fairy lights and gifts. The trickle of arrivals which began soon after 7 p.m. quickly developed into a torrent of Hams and their families. The entertainment got under way with a 16 m.m. talkie comedy, then came community singing. As the final words of "Hodge Beils" rang out, the tinkle of bells was heard and in came Santa carrying a 3 element 144 Mc beam with bells on the elements. Santa gave presents to the Hermonics, XYLA, and YLA, and finally the OMs who each received a good item of radio gear. SIS, critically ill in hospital, was not forgotten, and Santa called on 2ASZ to receive a gift on behalf of Ivan, to whom it was later delivered and joyously received.

Our guest of honour was a very good friend of Hunter Hams, Dr. Adeock, accompanied by his good wife. Also present were Mr. Pat Lebogier, who represented the P.M.G. Dept., and Asst. E.E. Mr. Frank Hince, and the Divisional Engineer of the P.M.G., Mr. J. White, 2UG, and XYLA. They, and visitors from North, South, and West were officially welcomed by Branch President Lionel Swain, 2CS. Next on the schedule was a sumptuous supper prepared by those hardworking souls, the XYLA's of the Committee. During the evening ice creams, soft drinks, and sweets were distributed together with a 2KT Special 18 Watter whose emission the OMs tested! Games were held and the winners given prizes. Dancing and games continued until late hours, and all had a grand time.

VICTORIA

The monthly meeting of the VK3 Division was held at the rooms in Queen Street on Wednesday, 7th January, the meeting taking the form of a rag chew. About 20 members were present, this being somewhat less than was expected. From the above of hands at the December meeting, when the possibility of using the rooms was discussed, a roll up of forty to fifty was expected. VK3WJ went on for about an hour, giving those present the opportunity of seeing the station under actual operating conditions.

Personally, I feel that a few more evenings of this type are called for, as they give everybody the opportunity to talk over the aspects of Amateur Radio in which they have the most interest. I may be wrong, but judging by the number of fellows who gather in the passage and forget the general business at the normal monthly meetings, two or three rag-chew nights per year are called for. Possibly the feelings of a general meeting could be ascertained on this point.

As I have undertaken to write the monthly VK3 notes, I would appreciate any items of news you may care to pass along. However, for this month I'm left entirely to my own resources, but the Xmas break gave me the time to moop round the bands a bit. Must hand the pain this month to the gentleman who publicised the fact that he is not a member of the W.I.A. but must go in on one night and collect his cards.

Our worthy Secretary, Russell 3BX, spent his holidays erecting a GBFO, and his visitors worked the first DX on it. Never mind Russ—you'll get the card. Quite a few chaps are re-building or about to re-build Jack 3AZK well on the way, all band-switched too. Bert 2AAF gone portable to the City of Feds. (Adelaide to you, Mr. Parsons!)

Have heard how to cause needless QRM—call CQ on two bands at once. Of course, if a DX station answers your call go back to him. Believe this actually happens in VK3. No wonder I cannot find a clear channel. In town recently was Leigh 3IL. Did not see him but did see the famous number plate round Footscray way.

Now is the time to remind one and all that mugs are due and payable on 23th February, so if necessary, go without a few packets of smoke this month, or else you may find yourself short of a couple of copies of "A.R."

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staffs of the Berri Winery, Tarac Co. and the electric branch." Wouldn't it! This is the Alex who has been there through mud for so long in these notes. I am awfully sorry, Mr. Kelly, Sir, and if you will be so kind as to look me up I will see that it does not occur again Sir.

Fred MMA, why didn't you wake me up as to how important Mr. Kelly was, I am terrified to think that I did not call him Ned, with the rope round his ice cream and jelly, sorry Mr. Kelly, Sir, I was so again!

SCJ really believes in Fred's Xmas now, because Murray is a proud father, a bouncing daughter by the name of Anna. Mother and daughter are doing fine but I believe the father was on the danger list a while. Murray is thinking of teaching Anne to catch fish even before teaching her to walk. The MCC was out for 10 days in the last month but has not had the luck of previous years due to lack of "break-through". No one can say that it is because of Hughes trying!

GMA has also been on 50 Mc. a little, had a few contacts in the contest, but Fred has a number of gremlins in his tx which apparently reared in when he moved to Berri. STL has had much to say about the Reel RRR on 60 mc at last. Tom is also very active on 20 and 40 mc, but at the time of writing is flat out fixating on operating the dangly line. I am busy with his many activities including photography, recording, spritick picking, irrigating, "Pineapple carousing" and other things in the mornings. Tom DTL and Bobby run a Flanagan and Allen act on 7 Mc. each Sunday morning at 8.30. I am sure that the dangly line is beginning to think that most of these notes should go to Jack 57D and not to me, but must be busy elsewhere because of the only one I hear of is "Heath Robinson" time. Probably busy on another "Heath Robinson" invention.

The last monthly meeting of the Upper Murray gang was held at Springcreek Gully at the QTH of BRC and was attended by practically all the club. Subjects discussed were: television, recording (disc and tape), 50 and 144 Mc. antennas, copper oxide rectifiers, and as a final tasty treat, copious cups of tea. Great news was spread by Mrs. Lloyd. The next meeting will be held at the QTH of BRC and everybody is looking forward to "doing good" the second year of Bobbie's.

Associate members were well to the fore at the Xmas Get-together when any assistance was wanted. A chap whom I think was named Greig, who came the way from Meningie, placed himself and his utility at our disposal; Tommy Taylor not only gave us the benefit of his own carpenter's skills but also brought along a number of necessary utensils for the brewing of the tea, and so on. The electric fire was almost too big for me to have had a bath in, and last but not least, Norman Colman personally instructed me in the best way to use the gas, and I heard this meeting finally snuffing the broom away from me in disgust and finishing the job himself. I was a little hurt at his unkind remarks, but the floor was really dirty and although I was slow I was thorough!

VKS is to have another representative on Maitland Island, and the club's Bob Scott Little (SAF) has signified his intention of giving the life on the island a tryout. His Brother-in-law, Mr. J. R. Scott, who is doing the job at the moment and apparently has sold Scott the idea. We all hope that Scott keeps the VKS Ailer that was intended for him, and that he will be quite "wowed" to hear any VKS coming back to the VKS calls so readily, up to now the only filters in their rx's were the VKS calls and the VKS calls.

Well, am I going to be very sweet with the dear Editor, here it is the first issue of the new year, and I am sure that you will be very kind to send me parcels of eggs, butter, cigarettes, and sundry bits of radio gear to ensure that most of my usual gear is in my usual place. Confidentially, between you and me, all my usual correspondents have apparently passed out after the Xmas celebration, and I am sure that you will be very kind to send me a word this month. Still we won't tell the Editor that and possibly he will believe that his sarcastic remarks have been heeded.

WESTERN AUSTRALIA

The Editor wants these notes short; this month they are! But this is through no wish of mine. However, the conditions of the contest are not mail reading and the fact that I have had no reports by any other means, the news this month will be almost nil. The target date for the W.A. picnic will be held at Rockingham.

name place as before, on the lawn near the shops. Bring the wife and kids, it will be a most interesting and relaxing back seat for once.

There have been a few instances of short skip 20 mc contact with the radio gang, but it is to catch up with one of them. During this period (one evening early in January), several VKSs and VKSs were heard. I heard, SKKE making a rotary beam test with GUG and in Geraldine the signal was 58 on all but two points of the compass—East and West. The signal was 58 on only dropped about two 5 point. Strange tricks the ionosphere plays at such times. Incidentally, while I was listening to the signal, I was not only knocking over some choice DX, but also had more "h-aliches" to the square foot than anywhere I've heard of before. His pronunciation of the word "beam" reminded me of "Oh, Mavis!" I might add that while I have yet to hear of "Bendley," we have heard of "h-aliches".

The unheralded advent of SMARO/MM on 7 Mc. c.w. one recent Sunday morning caused quite a flutter. And the same old elbowing took place with far too many stations, both phone and c.w., failing to make sure the other chap was fitted and had the right signal. I was a mixture of c.w. and m.c.w. and I found myself wondering what would happen to a VKS who had been heard for a long time. I imagine however that a foreign MM station would enjoy "diplomatic immunity" (like that enjoyed by our 7 Mc. night-time friends). The VKS who had been heard for a long time? Well, it's up to you—either appoint a city Ham as scribe or provide me with some gen. Sorry can't say by 144 Mc. but I am sure that for conditions to improve and some juicy scandal to break through, I have a wife and family to keep.

TASMANIA

Since the January meeting has not yet been held, I cannot report on same at time of going to press. The meeting was held on 14th Jan. interesting, as Joe TBJ is going to divulge the know-how on radio control of models, with, very probably, a bias towards model aircraft. The last field day was held on 14th Jan. and most certainly had its humorous interludes. Txs under the control of TLE and TOM were operated in the 13 and 14 Mc. bands, and were heard by Maitland and the Upper Murray. TDX and TAJ were first past the post with Don Davis. TJK, second. A most enjoyable time was had by all, and it is hoped that another is planned for the near future. The next field day to operators are warned of the inadvisability of listening to the radio near any existing wire which resembles an 80 mc antenna, however. Shock and all that you know.

Greetings to another new full member, Reg TWA. Reg has been heard on 144 Mc. and quite possibly is on some of the other bands by now. Don't you think that term "full member" is most expressive? Don't get me wrong though.

In passing, members having any agenda items to present are requested to bring them forward as soon as possible.

Two mwx news is practically non-exist. TBJ informs me that he has taken "another step forward" and is now a full member. I am sure that the only comment I can make on 2 mwx is R.I.P. In view of the foregoing, I am watching and waiting for the surprise of the members interested in 288 Mc. I said watching, not listening.

The new 21 Mc. band is certainly unpredictable. It is a band, but from my own observations, quite a few VKSs are actively interested in it. Whilst I have not heard any DX yet, numerous interstate contacts have assumed that they hear and work DX on 21 Mc. Unless you are very lucky, a certain amount of patience is required, but don't regard the commercials above the top end as indicators of band conditions. Their strength, or lack of it, does not mean a thing, from my own experience, and it's amazing how many people or so will do when this band appears quite dead—try it.

7 Mc. c.w. still go slightly babbles whenever he thinks of TDX's thirty-three (33) tube rx. No wonder you are having strife in accommodation the next day. Don't regard the commercial right ahead and build that shack. All the boys are right behind you and I am behind all of them, making sure no one is left out. If you all have to be to show this year to the XYL, having previously advised us of your favourite flows.

NORTHERN TASMANIAN ZONE

For December our meeting was replaced by a Sunday morning at the Brisbane Hotel to which almost all the members of TRK and TCA unfortunately could not come along

as members intervened. An informal dinner allowed us to have a chance for discussion on matters of interest to the heart of the Amateur. TGM and TLE were heard discussing the relative merits of masts and towers and, how, both have masts under construction to grace the beautiful skyline. Gordon has a 12 element 144 Mc. beam up on one of them at this is written and is working on a four element 100 Mc. beam. He was spending the Xmas holidays on his mast.

TTE, THY, TDB and associates Percy Crawford, Chas Kuttman, Geoff Conpton and Mark Smith were all heard giving a most interesting good advice on his rx. After many applications of mornin', etc., to get rid of the bugs, Henry's rx has a four element 100 Mc. beam. Apparently it couldn't stand the shock and has folded up completely. Consensus of opinion was that it had been overdone.

TLE, having just about finished his 100w. tx, is studying for his b.e. ticket. Social event of the year was the wedding of associate Gordon Bonner to Marjorie Pennington. The ceremony was held with a few breaks on 6 mc. On 144 Mc. TDB, TFF, TLE and TGM maintain nightly schedules and are on the lookout for Interstate contacts.

TRK has been so busy writing the DX notes that visiting Hams have to engage a guide to get through the "national park" that was a Galvin Street.

NORTH WESTERN ZONE

A dinner at the home of TWA on the 13th December, which was a complete surprise for Ellis, was well attended by members of this zone and friends. The menu was a most delicious dinner of four courses which included soup, entree, followed by roast chicken, new potatoes and peas, etc., and finished with fruit salad and ice cream. The appropriate note at the right temperature being served by an expert waiter. A vote of thanks was given by TRK. After the dinner, guests retired to the lounge for the light refreshments and were entertained by a demonstration of records by TRK and a very enjoyable time was had by all.

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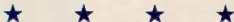
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Famous Eimac Tubes

Type 35T-35TG
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Famous Goldring Model 150 Pick-up. Brand new, with two sapphires for micro-groove or standard recordings. Reduced from **£7/19/6** to **49/6**



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The best quality Chassis Punch in Australia. Is made of best case-hardened steel.

SIZES

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1-3/16 inch	43/6



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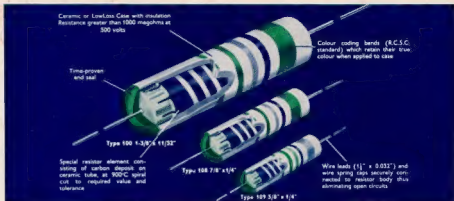
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Central 4311

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- 1 Fully insulated (ensuring tropical and mechanical protection).
- 2 Made to R.C.S.C. and J.A.N. Specifications.
- 3 Extremely low in noise content-high stability series being 0.100 microvolt average against standard of 0.500 per DC volt applied.
- 4 Internationally colour coded in preferred values.
- 5 Available throughout Australia at standard Australian prices.
- 6 Made in tolerances from 1% to 20%.
- 7 Available from 1 ohm to 5,000 megohms according to type.
- 8 Engineered resistors, against which full engineering and laboratory data is freely available upon request.
- 9 Specified for many Service requirements.



... world-famous ERIE CARBON RESISTORS Actually Cost NO MORE!

Tear out and file this handy conversion table

COLOUR CODE

In the standardised system of colour coding the colours are read from the end of the resistor adjacent to the colour bands. The third colour always indicates the number of "noughts" following the first two numerals. The colour code is as follows:—

Black . . . 0	Green . . . 5
Brown . . . 1	Blue . . . 6
Red . . . 2	Violet . . . 7
Orange . . . 3	Grey . . . 8
Yellow . . . 4	White . . . 9

If a fourth band is added on resistors, it indicates the tolerance according to the following code:—

Gold, $\pm 5\%$ tolerance;
Silver, $\pm 10\%$ tolerance.

If the fourth metallic indication is absent, the tolerance is assumed to be 20%.

Examples:

1. Red, Violet, Orange, Silver—27,000 ohms $\pm 10\%$.
2. Yellow, Violet, Black, Gold—47 ohms $\pm 5\%$.
3. Blue, Grey, Brown—680 ohms $\pm 20\%$.

INTERNATIONAL PREFERRED VALUES (10% Tolerance)

The following table lists the standard resistor values in ohms, comprising the 10% Tolerance Range. Each resistor covers values within $\pm 10\%$ of its nominal value.

Pref. V. Res. Range	Pref. Val. Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10—10—11	330—297—363	10,000—	9,000—11,000	330,000—	297,000—363,000
12—11—13	390—351—429	12,000—	10,800—13,200	390,000—	351,000—429,000
15—14—16	470—423—517	15,000—	13,500—16,500	470,000—	423,000—517,000
18—17—19	560—504—616	18,000—	16,200—19,800	560,000—	504,000—616,000
22—20—24	680—612—748	22,000—	19,800—24,200	680,000—	612,000—748,000
27—25—30	820—738—902	27,000—	24,300—29,700	820,000—	738,000—902,000
33—30—36	1,000—900—1,100	33,000—	29,700—36,300	1.0 meg.—	0.9—1.1 meg
39—36—42	1,200—1,080—1,320	39,000—	35,100—42,900	1.2 meg.—	1.08—1.32 meg
47—43—51	1,500—1,350—1,650	47,000—	42,300—51,700	1.5 meg.—	1.35—1.65 meg
56—52—61	1,800—1,620—1,980	56,000—	50,400—61,600	1.8 meg.—	1.62—1.98 meg
68—62—74	2,200—1,980—2,420	68,000—	61,200—74,800	2.2 meg.—	1.98—2.42 meg
82—74—90	2,700—2,430—2,970	82,000—	73,800—90,200	2.7 meg.—	2.43—2.97 meg
100—90—110	3,300—2,970—3,630	100,000—	90,000—110,000	3.3 meg.—	2.97—3.63 meg
120—108—132	3,900—3,510—4,290	120,000—	108,000—132,000	3.9 meg.—	3.51—4.29 meg
150—135—165	4,700—4,230—5,170	150,000—	135,000—165,000	4.7 meg.—	4.23—5.17 meg
180—162—198	5,600—5,040—6,160	180,000—	162,000—198,000	5.6 meg.—	5.04—6.16 meg
220—198—242	6,800—6,120—7,480	220,000—	198,000—242,000	6.8 meg.—	6.12—7.48 meg
270—243—297	8,200—7,380—9,020	270,000—	243,000—297,000	8.2 meg.—	7.38—9.02 meg

INTERNATIONAL PREFERRED VALUES (20% Tolerance)

Pref. V. Res. Range	Pref. Val. Res. Range	Pref. Value	Res. Range	Pref. Value	Res. Range
10—10—12	330—264—396	10,000—	8,000—12,000	470,000—	378,000—564,000
15—12—18	470—376—564	15,000—	12,000—18,000	680,000—	544,000—816,000
22—18—26	680—544—820	22,000—	17,600—26,400	1.0 meg.—	0.80—1.20 meg
33—27—39	1,000—800—1,200	33,000—	26,400—39,600	1.6 meg.—	1.20—1.60 meg
47—38—56	1,500—1,200—1,800	47,000—	37,600—56,400	2.2 meg.—	1.76—2.64 meg
68—55—81	2,200—1,760—2,640	68,000—	54,400—81,600	3.3 meg.—	2.64—3.96 meg
100—80—120	3,300—2,640—3,960	100,000—	80,000—120,000	4.7 meg.—	3.76—5.64 meg
150—120—180	4,700—3,760—5,640	150,000—	120,000—180,000	6.8 meg.—	5.44—8.16 meg
220—176—264	6,800—5,440—8,160	220,000—	176,000—264,000	10.0 meg.—	8.00—10.0 meg
		330,000—	264,000—396,000		

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